

Form PTO-1449  
(Rev. 8-83)U.S. Department of Commerce  
Patent and Trademark Office

Atty Docket 0756-2431

Serial No. 10/066,542

## INFORMATION DISCLOSURE STATEMENT

Applicants: Osamu NAKAMURA et al.

Filing Date: February 05, 2002

Group Art Unit: ~~NA~~ 5815

## U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
BWB	5,529,937	06/25/1996	Zhang et al.			
	5,608,232	03/04/1997	Yamazaki et al.			
	5,639,698	06/17/1997	Yamazaki et al.			
	5,700,333	12/23/1997	Yamazaki et al.			
	5,773,327	06/30/1998	Yamazaki et al.			
	5,789,284	08/04/1998	Yamazaki et al.			
	5,814,540	09/29/1998	Takemura et al.			
	5,869,363	02/09/1999	Yamazaki et al.			
	5,888,858	03/30/1999	Yamazaki et al.			
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	5,897,347	04/27/1999	Yamazaki et al.			
	5,915,174	06/22/1999	Yamazaki et al.			
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	6,027,987	02/22/2000	Yamazaki et al.			
	6,048,758	04/11/2000	Yamazaki et al.			
	6,063,654	05/16/2000	Ohtani			
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	6,071,764	06/06/2000	Zhang et al.			
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	6,077,758	06/20/2000	Zhang et al.			
	6,084,247	07/04/2000	Yamazaki et al.			
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	6,093,934	07/25/2000	Yamazaki et al.			
	6,100,562	08/08/2000	Yamazaki et al.			

Date Considered

6/2/02

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Applicants: Osamu NAKAMURA et al.

Filing Date: February 05, 2002

Group Art Unit: N/A

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## PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
BMB	6,111,557	08/29/2000	Koyama et al.			
	6,121,660	09/19/2000	Yamazaki et al.			
	6,133,073	10/17/2000	Yamazaki et al.			
	6,133,075	10/17/2000	Yamazaki et al.			
	6,133,119	10/17/2000	Yamazaki			
	6,153,445	11/28/2000	Yamazaki et al.			
	6,156,590	12/05/2000	Yamazaki et al.			
	6,156,628	12/05/2000	Ohnuma et al.			
	6,160,268	12/12/2000	Yamazaki			
	6,162,704	12/19/2000	Yamazaki et al.			
	6,165,824	12/26/2000	Takano et al.			
	6,168,980	01/02/2001	Yamazaki et al.			
	6,184,559	02/06/2001	Hayakawa et al.			
	6,194,255	02/27/2001	Hiroki et al.			
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	6,201,585	03/13/2001	Takano et al.			
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	6,218,219	04/17/2001	Yamazaki et al.			
	6,225,152	05/01/2001	Yamazaki et al.			
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	6,251,712	06/26/2001	Tanaka et al.			
	6,287,900	09/11/2001	Yamazaki et al.			
	6,291,275	09/18/2001	Yamazaki et al.			
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	6,303,415	10/16/2001	Yamazaki			

Examiner

Date Considered

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04/03/2002

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Serial No. 10/066,542

## INFORMATION DISCLOSURE STATEMENT

Applicants: Osamu NAKAMURA et al.

Filing Date: February 05, 2002

Group Art Unit 2815

APR 05 2002

## PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
<i>BWB</i>	6,303,963	10/16/2001	Ohtani et al.			
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	6,316,789	11/13/2001	Yamazaki et al.			
	6,316,810	11/13/2001	Yamazaki et al.			

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Examiner Initial	Document Number	Date	Country	Class	Subclass	Translation Yes No
<i>BWB</i>	05-109737	04/30/1993	JP			Full Eng

Examiner

Date Considered

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04/03/2002

U.S. PATENT & TRADEMARK OFFICE  
NOV 25 2002  
JC76

PTO/SB/08A (10-01)

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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449A/PTO				Complete if Known	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				Application Number	10/066,542
				Filing Date	February 5, 2002
				First Named Inventor	Osamu NAKAMURA et al.
				Art Unit	2814-2815
				Examiner Name	JACKSON
Sheet	1	of	3	Attorney Docket Number	740756-2431

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)				
[Signature]		US-3,535,775		10/27/1970	Garfinkel et al.	
		US-4,371,403		02/01/1983	Ikubo et al.	
		US-4,477,308		10/16/1984	Gibson et al.	
		US-4,534,820		08/13/1985	Mori et al.	
		US-5,244,819		09/14/2002	Yue	
		US-5,275,896		01/04/1994	Garofalo et al.	
		US-5,403,772		04/04/1995	Zhang et al.	
		US-5,426,064		06/20/1995	Zhang et al.	
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		US-5,492,843		02/20/1996	Adachi et al.	
		US-5,501,989		03/26/1996	Takayama et al.	
		US-5,508,533		04/16/1996	Takemura	
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FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code <sup>3</sup>	Number <sup>4</sup> Kind Code <sup>2</sup> (if known)			
[Signature]		EP	651431	05/03/1995	Ohtani et al.	
		JP	07-183540	07/21/1995	Ohtani et al.	AB
		JP	08-078329	03/22/1996	Ohtani	AB
		JP	3032801	02/18/2000	Takano et al.	AB

Examiner Signature	[Signature]	Date Considered	6/2/02
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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at 222.uspto.gov or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

## Complete if Known

Application Number	10/066,542
Filing Date	February 2, 2002
First Named Inventor	Osamu NAKAMURA et al.
Art Unit	2814-2813
Examiner Name	JACKSON
Attorney Docket Number	740756-2431

Sheet 2 of 3

## U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.†	U.S. Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)				
BWD		US-5,589,694		12/31/1996	Takayama et al.	
		US-5,595,923		01/21/1997	Zhang et al.	
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		US-5,604,360		02/18/1997	Zhang et al.	
		US-5,605,846		02/25/1997	Ohtani et al.	
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		US-5,612,250		03/18/1997	Ohtani et al.	
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		US-5,616,506		04/01/1997	Takemura	
		US-5,620,910		04/15/1997	Teramoto	
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		US-5,624,851		04/29/1997	Takayama et al.	
		US-5,637,515		06/10/1997	Takemura	
		US-5,646,424		07/08/1997	Zhang et al.	
		US-5,654,203		08/05/1997	Ohtani et al.	
		US-5,656,825		08/12/1997	Kusumoto et al.	
		US-5,663,077		09/02/1997	Adachi et al.	
		US-5,677,549		10/14/1997	Takayama et al.	
		US-5,696,386		12/09/1997	Yamazaki	
		US-5,696,388		12/09/1997	Funada et al.	

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Substitution for form 1449A/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (use as many sheets as necessary)				<b>Complete if Known</b>	
Application Number				10/066,542	
Filing Date				February 2, 2002	
First Named Inventor				Osamu NAKAMURA et al.	
Art Unit				2814-2315	
Examiner Name				JACKSON	
Attorney Docket Number				740756-2431	
Sheet	3	of	3		


U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)				
B/M		US-5,705,829		01/06/1998	Miyanaga et al.	
		US-5,712,191		01/27/1998	Nakajima et al.	
		US-5,744,824		04/28/1998	Kousai et al.	
		US-5,843,225		12/01/1998	Takayama et al.	
		US-5,923,962		07/13/1999	Ohtani et al.	
		US-5,932,893		08/03/1999	Miyanaga et al.	
		US-6,180,439		01/30/2001	Yamazaki et al.	
		US-6,285,042		09/04/2001	Ohtani et al.	
		US-6,376,336		04/23/2002	Buynoski et al.	
		US-6,396,147		05/28/2002	Adachi et al.	
		US-2001/0034088		10/25/2001	Nakamura et al.	
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OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Lee et al. <u>IEEE Transactions on Electron Devices</u> , Vol. 45, No. 8, August 1998 "Argon Ion-Implantation on Polysilicon or Amorphous-Silicon for Boron Penetration Suppression in p <sup>+</sup> pMOSFET" p. 1737-1744	
		Miyake et al. <u>IEEE Transactions on Electron Devices</u> , Vol. 43, No. 3, March 1996 "Characteristics of Buried-Channel pMOS Devices with Shallow Counter-Doped Layers Fabricated Using Channel Preamorphization" p. 444-449	
		U.S. Patent Application Serial No. 10/020,961 Filed: 12/19/2001 - Filing Receipt, Specification, Claims and Drawings	
		U.S. Patent Application Serial No. 10/072,931, Filed: 02/12/2002 - Filing Receipt, Specification, Claims and Drawings	
		U.S. Patent Application Serial No. 10/056,055, filed: 01/28/2002, Filing receipt, Specification, Claims and Drawings	
		U.S. Patent Application Serial No. 10/074,050 Filed: 02/14/2002, Filing Receipt, Specification, Claims and Drawings	
		U.S. Patent Application Serial No. 10/051,064 Filed: 01/18/2002, Filing Receipt, Specification, Claims and Drawings	
		U.S. Patent Application Serial No. 10/097,641 Filed: 03/15/2002, Filing Receipt, Specification, Claims and Drawings	
Examiner Signature		<i>[Signature]</i>	Date Considered 6/2/02

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Form PTO-1449 (Rev. 8-83)	U.S. Department of Commerce Patent and Trademark Office	Atty Docket 0756-2431	Serial No. 10/066,542			
<b>INFORMATION DISCLOSURE STATEMENT</b> 		Applicants: Osamu NAKAMURA et al.				
		Filing Date: February 05, 2002	Group Art Unit: 2814 <i>2815</i>			
<b>FOREIGN PATENT DOCUMENTS</b>						
Examiner Initial	Document Number	Date	Country	Class	Subclass	Translation Yes No
<i>BMB</i>	09-074207	03/18/1997	JP			Full Eng
Examiner <i>BMB</i>	Date Considered <i>5/31/03</i>					
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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	10/066,542
		Filing Date	February 5, 2002
		First Named Inventor	Osamu NAKAMURA et al.
		An Unit	2814 2815
		Examiner Name	JACKSON
Sheet 1 of 1	Attorney Docket Number	740756-2431	

U.S. PATENT DOCUMENTS					
Examiner Initials <sup>1</sup>	Cite No. <sup>2</sup>	U.S. Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number <sup>3</sup> Kind Code <sup>4</sup> (if known)			
		US-			
		US-			
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FOREIGN PATENT DOCUMENTS						
Examiner Initials <sup>1</sup>	Cite No. <sup>2</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>4</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials <sup>1</sup>	Cite No. <sup>2</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>3</sup>
2/20/03		D.J. Llewellyn et al. <u>IEEE 1997</u> ; "Implantation and annealing of Cu in InP for electrical isolation: microstructural characterization" pp.313-316	
2/20/03		Kevin Jones et al. <u>IEEE 2000</u> ; "Boron Diffusion upon Annealing of Laser Thermal Processed Silicon"; pp.111-114	

Examiner Signature		Date Considered	5/31/03
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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (use as many sheets as necessary)				Application Number	Not Yet Assigned 101066542
				Filing Date	February 5, 2002
				First Named Inventor	Osamu NAKAMURA et al
				Group Art Unit	Not Yet Assigned - 2815
				Examiner Name	Not Yet Assigned - JACKSON
				Attorney Docket Number	740756-2431
Sheet	1	of	1		

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Examiner Signature		Date Considered	6/2/03
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

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Complete if Known

Sheet 1 of 2

Application Number	10/066,542
Filing Date	February 5, 2002
First Named Inventor	Osamu NAKAMURA et al.
Art Unit	2815
Examiner Name	Bradley Braumeister Jackson
Attorney Docket Number	740756-2431

## **U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document	Publication Date MM-DD-YYYY	Name of Predecessor or Applicant of Cited Document	Page, Column, Line, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
		US-4,727,044	02/23/1988	Yamazaki	
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		US-5,851,860	12/22/1998	Makita et al.	
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		US-6,015,593	01/18/2000	Yonkoski et al.	
		US-6,083,324	07/04/2000	Henley et al.	
		US-6,162,667	12/19/2000	Funai et al.	
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INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(use as many sheets as necessary)

Complete if Known

Application Number	10/066,542
Filing Date	February 5, 2002
First Named Inventor	Osamu NAKAMURA et al.
Art Unit	2815
Examiner Name	Bradley Baumeister Jackson
Attorney Docket Number	740756-2431

Sheet 2 of 2

## U.S. PATENT DOCUMENTS

Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	U.S. Patent Document	Publication Date MM-DD-YYYY	Name of Patent or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
		US-2002/0115271 A1	08/22/2002	Yamazaki et al.	
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		Country Code <sup>2</sup> Number <sup>2</sup> Kind Code <sup>2</sup> (if known)				
		JP-06-151414	05/31/1994	Yamada		AB
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## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

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		Application Number	10/066,542		
		Filing Date	February 5, 2002		
		First Named Inventor	Osamu NAKAMURA et al.		
		Art Unit	2815		
		Examiner Name	Bradley W. Baumelster <i>Jackson</i>		
Sheet	1	of	1	Attorney Docket Number	740756-2431

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		Number - Kind Code <sup>3</sup> (if known)			
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		Country Code <sup>3</sup> Number <sup>3</sup> Kind Code <sup>3</sup> (if known)				
<i>JJ</i>		JP 9-115831	05-02-1997	HARA et al.	—	FULL

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Examiner Signature	<i>Osamu Jackson</i>	Date Considered	6/05
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		First Named Inventor	Osamu NAKAMURA et al.
		Art Unit	2815
		Examiner Name	Bradley W. Baumeister Jackson
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		Number - Kind Code <sup>2</sup> (if known)			
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		Filing Date	February 5, 2002
		First Named Inventor	Osamu NAKAMURA
		Art Unit	2815
		Examiner Name	Bradley W. Baumeister, Jr. ESM
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BWB		US-2003/0122129 A1	07-03-2003	Yamazaki et al.	
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		Number	Kind Code/ (if known)		
		US-5,962,871		Zhang et al.	10-05-1999
		US-5,318,661		Kumomi	06-07-1994
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